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File : 997666

STAT

Wide Angle

Wide Angle Rhomboid

Declass Review by NGA.

Prototype Acceptance Test Check List

Separation of Fields of View

Minimum 'X' direction (90 mm max.) Reading 38.5 mm

Maximum 'X' direction (230 mm min.) Reading 231 mm

Maximum 'Y' direction (106 mm min.) Reading 106.5 mm

Fields of View with 10X W.F. eyepiece (mm).

Zoom Setting	Limits	Readings L.H.	R.H.
0.7X	10.91 – 12.0	11.6 mm	11.6 mm
1.0X	9.1 – 10.0	9.3 "	9.4 "
2.0X	4.5 – 5.0	4.7 "	4.7 "
3.0X	3.04 – 3.35	3.1 "	3.15 "

Rhomboid magnification Limits 2.0 – 2.2X

		Pod	Pod + Rhomboid	Rhomboid
L.H.	0.7X	14.5X	6.8X	2.13X
	3.0X	3.37X	1.58X	2.13X
R.H.	0.7X	14.38X	6.9X	2.08X
	3.0X	3.32X	1.61X	2.06X

Re-Rotation run-out

	Target in center	Target off center	How far off center
L.H.	2.3 mm	0.5 mm	1.3 mm
R.H.	2.55 mm	0.4 mm	1.2 mm

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Resolution (on axis only) w/ 10X W.F. and 3X

L.H.	R.H.	BBL USAF
4	4	4 = 28 l/mm

Light Transmission (20% min.)

L.H.	R.H.	
22%	22%	Pre-production Model
21%	17%	Prototype

Note: R.H. prism aluminized surface has deteriorated to some extent.

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Widespan

Differences Between Prototype and Production Widespan Rhomboids.

Rhomboid Separation - Production units will achieve a greater 'X' direction maximum and 'Y' direction maximum separation of fields of view. Minimum 'X' direction separation will be the same.

De-Rotation Prism - Production units will be indexed from the sides of the rhomboid arms rather than from windows on the front of the arms as in the prototype. The dimpling on the de-rotation control of the prototype instrument will not appear on the production units.

Mirror covers on the production instruments will be slightly shorter than on the prototype.

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Wideopen

Reflecting prism mounts - The design of the mount for the center reflecting prism has been changed for the production units to simplify the adjustment of this prism. The mount used in the prototype was found to be too complicated and difficult to adjust because of duplication of effects by adjustment motions (e.g. moving the prism in the 'Z' direction has the same effect as moving it in the 'Y' direction).

Color - Production units will be painted black rather than gray like the prototype.

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Prototype

Widespan

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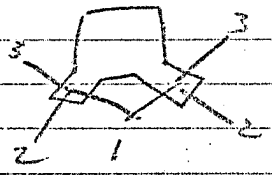
Resolution Data - Customer's unit.

Set-up - 20x W.F. E.P. + Eyeguard
Focus for best resolution both sides
L.H. & R.H. arms both in position #2
L.H. side focus ck. R.H. side readings.
Resolution readings.



	L.H.	250 + 281 V
	R.H.	281
0° tape	281	
30		
60		
90	281	281 V
120		
150		
180	281	
210		
240		
270	223	223
300		
330		
0° no tape	223 + 250 V	
30		
60		
90	223 + 250 H	
120		
150		
180	281	
210		
240		
270	250 + 281 V	
300		
330		
0° Tape	281	

clear pupil
no cut-in w/door rotation

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Wideyan

Resolution Data - Customer's unit

R.H. side focus checks position # 2
L.H. side readings " # 1
L.H. 250 + 281 V
R.H. 281

0° tape	250 + 281 V	
90	281	
180	223	223
270	198 + 223 H	pupil cut-in no change w/ close rotation.
0° no tape	198 + 223 V	
90	198 + 223 H	
180	223 + 250 V	
270	198	198 just marginal
0° tape.	250 + 281 V	

L.H. side focus check position # 2.
R.H. side readings " # 1
L.H. 250 + 281 V

0° tape	223 + 250 V	
90	223 + 250 V	
180	250	
270	223 + 250 H	pupil cut-in slight change w/ close rotation
0° no tape	250 + 281 V	
90	250 + 281 H	
180	250	
270	198 + 223 H.	
0° tape	198 + 223 V	

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Wedgeport

Resolution Data - Customer's visit.

R.H. side focus check

L.H. side readings

Both arms in position #2

L.H. 250 + 281 V

R.H. 281

0° tape	250 + 281 V
90	223 + 250 H
180	223
270	223 + 250 H
0° no tape	281
90	250
180	250 + 281 V
270	223 + 250 H
0° tape	250 + 281 V

pupil cut-in changes slightly w/above rotation.

R.H. side focus check position #2

L.H. side reading. " #3

L.H. 250 + 281 V

R.H. 281

0° tape	250 + 281 V	
90	223 + 250 H	
180	223 + 250 V	
270	198 + 223 H	198 + 223 H
0° no tape	250	
90	250	250 + 281 H
180	198 + 223 H	
270	198	
0° tape.	250 + 281 V	250 + 21 V

pupil cut-in no change w/above rotation.

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Resolution Data - Customer's unit

L. H. side focus check position # 2
R. H. side reading " # 3

	L. H. 250 + 281 V
0° tape	223 + 250 V
90	198 198
180	can not resolve largest block (198) ✱
270	can not resolve largest block (198) ✱
0° no tape	250 V only nothing horizontally ✱
90	can not resolve largest block (198) ✱
180	223 + 250 H
270	198 + 250 H
0° tape	223 + 281 V

pupil cut-in changes w/ dove rotation

De-Rotation run out

	Target in center	Offcenter	Hour-wand
R.H.	5.5	2	3.
L.H.	8	2.5	2.2

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